Miniature Kill Vehicle

The Miniature Kill Vehicle (MKV) Program Objective is to develop and demonstrate an affordable MKV system capable of defeating threats in the 2010+ timeframe that are likely to employ sophisticated countermeasures

Ballistic missile defense systems must have a capability to negate re-entry vehicles (RVs) during the mid-course portion of their trajectory in order to meet specified battlespace and probability of leakage goals supporting a layered defense architecture. Countermeasures that adversely affect probability of single shot kill in the mid-course phase, such as anti-simulation and shrouded RVs, will be addressed by a miniature kill vehicle (MKV) interceptor system.

The MKV system will provide a cost effective means for addressing countermeasure suites by intercepting all credible threat objects within a threat cluster with one or more MKVs. Practical use of low cost MKV's for these applications will require the:

- Proper balance of functions between the carrier vehicle and the MKVs

- Substantial reduction of kill vehicle size, mass, and acquisition cost. The Missile Defense Agency has established the Miniature Kill Vehicle program, executed by the U.S. Army's Space and Missile Defense Technical Center, to begin development of this much needed capability.

The MKV program's primary effort is the MKV System Concept Development Task. This task includes contractor teams engaged in designing system concepts with emphasis on the carrier vehicle (CV) and miniature kill vehicles. A future portion of the program will include advanced technology development, detailed designs, system integration and ground test, and integrated flight tests. They will demonstrate all critical MKV and CV functions such as flight divert and control performance, dispense mechanisms, sensor package capability, CV/MKV communication, and MKV terminal homing to intercept.

In parallel, the Space and Missile Defense Technical Center is executing a kill vehicle Technology Development Task to develop and demonstrate integrated operation of one or more proof-of-principle MKV concepts in the near term. The two primary objectives of these demonstrations are to:

- Verify that kill vehicles of this size can be developed to meet specified requirements

- Gain a better understanding of the projected costs of this class of kill vehicle. The KV Technology Development Task is developing KV component technologies (seeker, propulsion, structure, avionics etc.), performing laboratory breadboard demonstrations, and conducting integrated ground test demonstrations.

For more information, please contact:

U.S. Army Space and Missile Defense Command
Public Affairs Office
P.O. Box 1500
Huntsville, AL 35807-3801
Phone: 256-955-3887
Fax: 256-955-1214
Email: webmaster@smdc.army.mil
www.smdc.army.mil